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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
TRAN, ELLEN C	

ART UNIT	PAPER NUMBER
2134	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/758,852	HAMMOND ET AL.	
	Examiner	Art Unit	
	Ellen C. Tran	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Ellen Tran
ELLEN TRAN
PATENT EXAMINER
2134
AU

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *Oct. 2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to: amendment filed 27 October 2007 with an original application filed on 16 January 2004 with acknowledgement of the benefit of a provisional application filed 16 January 2003.

2. Claims 1-19 are pending; claims 1, 14, 15, and 18, are independent claims. Claims 2, 15, and 18 have been amended. Amendments to the claims are accepted.

Response to Arguments

3. The arguments presented on 27 October 2007 have been fully considered however they are moot due to the new grounds of rejection below.

Claim Objections

4. Claim 15 is objected to because of the following informalities: Claim 15 was amended to include "having cooperative agent network" however the rest of the claim is directed to "event correlation engines". It is recommended if the 'agent' is equivalent to the 'correlation engines' that the claim and dependent claims be amended as needed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 1, 3, 4, 6-9, and 15-19,** are rejected under 35 U.S.C. 103(a) as being unpatentable over Norris et al. U.S. Patent No. 7,028,338 (hereinafter '338) in view of Munson U.S. Patent No. 7,096,499 (hereinafter '499).

As to independent claim 1, "A method of protecting an electronic network, comprising: installing one or more agents within components of the electronic network" is taught in '338 col. 1, lines 54-67;

"monitoring the electronic network for abnormal activity using the agents" is disclosed in '338 col. 5, lines 26-31;

"and protecting the electronic network by blocking the abnormal activity using the agents" is taught in '338 col. 1, lines 56-67;

the following is not explicitly taught in '338:

"performing an initial assessment of the electronic network to determine normal activity" however '499 teaches that nominal profiles data are initially established by a calibration process that is implemented by running the program in a calibration mode in col. 5, lines 5-15.

It would have been obvious to one of ordinary skill in the art at the time of the invention of a method or system of a cooperative response to threat to domain security taught in '338 to include a mechanism to perform an initial assessment. One of ordinary skill in the art would have been motivated to perform such a modification because it would be desirable to provide a real time intrusion detection program see '499 (col. 1, lines 53 et seq.) "One known system for detecting an intrusion is the EMERALD™ program. EMERALD defines the architecture of independent monitors that are distributed about a network to detect intrusions. Each monitor

performs a signature or profile analysis of a "target event stream" to detect intrusions and communicates such detection to other monitors on the system. The analysis is performed on event logs, but the structure of the logs is not prescribed and the timeliness of the analysis and detection of an intrusion depends on the analyzed system and how it chooses to provide such log data. By monitoring these logs, EMERALD can thus determine that at some point in the event stream recorded in the log, an intrusion occurred. However, the detection is generally not implemented in real time, but instead occurs at some interval of time after the intrusion. Also, this system does not allow monitoring of all types of software activity, since it is limited to operating system kernel events. It would be desirable to provide a real time intrusion detection paradigm that is applicable to monitoring almost any type of program."

As to dependent claim 3, "further comprising logically connecting at least one of the agents into one or more cooperative agent cells" is taught in '338 col. 1, line 66 through col. 2, line 15.

As to dependent claim 4, "wherein the step of installing further comprises: establishing bidirectional communication protocols for agent communication within the cooperative agent cells; delegating one or more agents in the cooperative agent cells to have bidirectional communication with another delegated agent; and establishing bidirectional communication protocols for each delegated agent to communicate with another delegated agent" is shown in '338 col. 5, lines 55-63.

As to dependent claim 6, "wherein the step of logically connecting further comprises self-organizing at least one of the agents into each of the cooperative agent cells" is disclosed in '338 col. 6, lines 10-24.

As to dependent claim 7, "wherein the step of establishing further comprising communicating via at least one covert communication protocol" is taught in '338 col. 5, lines 55-63.

As to dependent claim 8, "wherein the step of performing an initial assessment comprises: mapping systems, communication ports and attached devices of the electronic network; and establishing normal activity of the systems, communication ports, and attached devices" however '499 teaches that the nominal profile data are initially established by a calibration process ... and that the software signals may be obtained from software probes or directly from a hardware address bus (a hardware probe) in col. 5, lines 5-38.

As to dependent claim 9, "wherein the step of monitoring comprises: non-destructively intercepting communications on the electronic network; collecting events from the intercepted communications; and determining if the events indicate abnormal activity" is shown in '338 col. 3, line 63 through col. 4, line 40.

As to independent claim 15, "one or more event correlation engines, each event correlation engine being connected to the electronic network and having a receive event handler for receiving events addressed to the event correlation engine; and one or more event correlation modules, each of the event correlation modules having an event pattern that defines events of interest" is taught in '338 col. 1, lines 54-67;

"each of the correlation modules receiving all events received by the event correlation engine, the event correlation module correlating the events of interest" is shown in '338 col. 2, lines 7-24;

the following is not explicitly taught in '338:

"A system for event monitoring, comprising: an electronic network, having cooperative agent network for performing an initial assessment of the electronic network, for collecting events" however '499 teaches that nominal profiles data are initially established by a calibration process that is implemented by running the program in a calibration mode in col. 5, lines 5-15.

It would have been obvious to one of ordinary skill in the art at the time of the invention of a method or system of a cooperative response to threat to domain security taught in '338 to include a mechanism to perform an initial assessment. One of ordinary skill in the art would have been motivated to perform such a modification because it would be desirable to provide a real time intrusion detection program see '499 (col. 1, lines 53 et seq.) "One known system for detecting an intrusion is the EMERALD™ program. EMERALD defines the architecture of independent monitors that are distributed about a network to detect intrusions. Each monitor performs a signature or profile analysis of a "target event stream" to detect intrusions and communicates such detection to other monitors on the system. The analysis is performed on event logs, but the structure of the logs is not prescribed and the timeliness of the analysis and detection of an intrusion depends on the analyzed system and how it chooses to provide such log data. By monitoring these logs, EMERALD can thus determine that at some point in the event stream recorded in the log, an intrusion occurred. However, the detection is generally not implemented in real time, but instead occurs at some interval of time after the intrusion. Also, this system does not allow monitoring of all types of software activity, since it is limited to operating system kernel events. It would be desirable to provide a real time intrusion detection paradigm that is applicable to monitoring almost any type of program."

As to dependent claim 16, "wherein the event correlation module is a simulated annealing correlator module" is taught in '338 col. 3, line 63 through col. 4, line 10.

As to dependent claim 17, "the simulated annealing correlator further comprising: recorded events; a simulated annealing correlator engine; heuristics; and a correlation threshold; wherein the simulated annealing correlator engine utilizes the heuristics and the correlation threshold to correlate the events received by the event correlation engine with the recorded events, the correlated events being added to the recorded events" is shown in 338 col. 3, line 63 through col. 4, line 10.

As to independent claim 18, "collecting electronic network events; sampling the electronic network events with one or more event correlation engines" is taught in '338 col. 1, lines 54-67;

"passing sampled electronic network events from each event correlation engine to one or more event correlator modules within each event correlation engine; comparing events in each of the event correlator modules by sampling the events, determining if any of the events matches an event pattern, and, if there is a match, creating a new event announcing the match and passing the new event to the associated event correlation engine for electronic network distribution" is shown in '338 col. 2, lines 7-24;

"and determining patterns in events using a simulated annealing correlator, determining if the pattern is important, and, if so, creating a new event announcing the important pattern and passing the new event to the associated event correlation engine for network distribution" is disclosed in 338 col. 3, line 63 through col. 4, line 10;

the following is not explicitly taught in '338:

"A method of pattern recognition, comprising: performing an initial assessment of the electronic network" however '499 teaches that nominal profiles data are initially established by a calibration process that is implemented by running the program in a calibration mode in col. 5, lines 5-15.

It would have been obvious to one of ordinary skill in the art at the time of the invention of a method or system of a cooperative response to threat to domain security taught in '338 to include a mechanism to perform an initial assessment. One of ordinary skill in the art would have been motivated to perform such a modification because it would be desirable to provide a real time intrusion detection program see '499 (col. 1, lines 53 et seq.) "One known system for detecting an intrusion is the EMERALD™ program. EMERALD defines the architecture of independent monitors that are distributed about a network to detect intrusions. Each monitor performs a signature or profile analysis of a "target event stream" to detect intrusions and communicates such detection to other monitors on the system. The analysis is performed on event logs, but the structure of the logs is not prescribed and the timeliness of the analysis and detection of an intrusion depends on the analyzed system and how it chooses to provide such log data. By monitoring these logs, EMERALD can thus determine that at some point in the event stream recorded in the log, an intrusion occurred. However, the detection is generally not implemented in real time, but instead occurs at some interval of time after the intrusion. Also, this system does not allow monitoring of all types of software activity, since it is limited to operating system kernel events. It would be desirable to provide a real time intrusion detection paradigm that is applicable to monitoring almost any type of program."

As to dependent claim 19, "wherein the step of sampling further comprises sampling all of, or less than all of, the electronic network events" is taught in 338 col. 3, line 63 through col. 4, line 10.

7 **Claims 2 and 5,** are rejected under 35 U.S.C. 103(a) as being unpatentable over Norris et al. U.S. Patent No. 7,028,338 (hereinafter '338) in view of Munson U.S. Patent No. 7,096,499 (hereinafter '499) in further view of Crosbie et al. U.S. Patent No. 7,007,301 (hereinafter '301).

As to dependent claim 2, the following is not explicitly taught in the combination of '338 and '499: **"wherein the step of installing comprises the step of installing a type 2 super peer agent for authenticating, authorizing and reauthorizing the agents"** however '301 teaches that the agents are authenticated by using the SSL communication protocol with the management station in col. 11, lines 1-15.

It would have been obvious to one of ordinary skill in the art at the time of the invention of a method or system of a cooperative response to threat to domain security taught in '338 and '499 to include a means to trust the various components on the Internet. One of ordinary skill in the art would have been motivated to perform such a modification because of the need for an effective host-based IDS system see '301 (col. 5, line 59 through col. 6, line 30) "As more business is done over the Internet, more trust is placed in critical infrastructure elements: the routers, hubs, and Web servers that move data around the net. They also include DNS name servers that allow users to access www.mycompany.com from their browsers. A DNS server is a computer that maps names such as www.company.com to an Internet address such as 10.2.3.4. By attacking these important infrastructure services, a hacker can bring the whole organization to

its knees. Sometimes an attacker does not have to steal information. By simply making the systems unavailable for use the attacker can cause you losses in both financial terms and in credibility in the industry ... In summary, although host-based systems have numerous advantages as compared to network based systems, the difficulty is that prior art host-based systems require traditional signature matching against hundreds of templates. Up until now there have not been any effective host-based IDS systems. Thus, a need exists for an efficient host-based intrusion detection system".

As to dependent claim 5, "wherein the step of installing further comprises: broadcasting a request for agents to submit to authentication; and authenticating submitted agents" however '301 teaches that the agents are authenticated by using the SSL communication protocol with the management station in col. 11, lines 1-15.

8. **Claim 10,** is rejected under 35 U.S.C. 103(a) as being unpatentable over Norris et al. U.S. Patent No. 7,028,338 (hereinafter '338) in view of Munson U.S. Patent No. 7,096,499 (hereinafter '499) in further view of Moran U.S. Patent No. 7,085,936 (hereinafter '936).

As to dependent claim 10, the following is not explicitly taught in the combination of teaching of '338 and '499: **"wherein the step of protecting comprises one or more of: luring a malicious agent that causes abnormal activity into a false appearance of success; planting instructions on information retrieved by the malicious agent to assist in identifying the origins of the malicious agent"** however '936 teaches that the system includes a trap system create a virtual cage in col. 7, lines 42-51;

"isolating electronic network components which have been compromised by the malicious agent; attacking the malicious agent; formulating a strategy to eliminate recently discovered vulnerabilities in the electronic network; installing patches to eliminate vulnerabilities in the electronic network; reassessing the electronic network to detect abnormal operations; and investigating abnormal operations of the electronic network" however '936 teaches "The inventive system focuses on discovering and presenting information about an attack, and presents configuration problems that are likely related to the attack, while suppressing those that aren't. Additionally, the presentation may show where relevant configuration problems fit within the factors that made the attack possible. This facilitates recovering from the attack, because the system administrator may be able to block future attacks of the same type by fixing only a subset of factors involved rather than having to fix every possible factor. It is also extremely useful in situations where one of the configuration problems cannot be changed due to its providing crucial functionality for the enterprise. For example, the restore command should normally not be set to allow execution by normal users with SetUID to root because it can be used to allow a normal user to install his own SetUID program on the computer that gives him a root shell. However, the dump-restore command pair have features that make them preferable in various circumstances to the other commonly available archiving and file copying utilities, and thus a system administrator may decide that having this capability available is worth the security risk" in col. 12, lines 9-29.

It would have been obvious to one of ordinary skill in the art at the time of the invention of a method or system of a cooperative response to threat to domain security taught in '338 and '499 to include a mechanism to quarantine attacked systems. One of ordinary skill in the art

would have been motivated to perform such a modification because of the need to improve existing intrusion detection systems see '936 (col. 3, lines 3 et seq.) "The third dimension is real-time or after-the-fact. All conventional IDSes fall into the real-time category: their intention is to alert the operator to an attack so that he can respond in time to avert damage. However, the speed with which attacks are currently executed rarely allow time for any meaningful response from these systems. The after-the-fact category is dominated by forensic tools: utilities designed to help a computer security expert analyze what happened on a compromised host by extracting data that has been established as relevant to known attacks. The exception to this is the DERBI project (Diagnosis, Explanation and Recovery from Break-Ins), which experimented with the feasibility of after-the-fact detection of intrusions on hosts with no special data collection enabled. The DERBI project developed a loosely coupled system that processed data for a single known simulated host in an experimental testbed. The existing systems, however, have many limitations: they fail to utilize many useful sources of data, they produce large amounts of information that are difficult for a human to analyze in a timely fashion, they are complex and difficult to use, and they are often designed for system administration rather than attack diagnosis".

9. **Claims 11-13,** are rejected under 35 U.S.C. 103(a) as being unpatentable over Norris et al. U.S. Patent No. 7,028,338 (hereinafter '338) in view of Munson U.S. Patent No. 7,096,499 (hereinafter '499) in further view of Rowland et al. U.S. Patent No. 7,058,968 (hereinafter '968).

As to dependent claim 11, the following is not explicitly taught in the combination of teaching of '338 and '499: **"further comprising promoting one of the agents in each of the**

cooperative agent cells to a cell delegate" however '968 teaches that the architecture of the system is designed to allow modularity. This modularity allows for the roles to be reversed. In col. 4, lines 44-67.

It would have been obvious to one of ordinary skill in the art at the time of the invention of a method or system of a cooperative response to threat to domain security taught in '338 and '499 to include a means to develop a hierarchical agent installation promoting agents. One of ordinary skill in the art would have been motivated to perform such a modification because of the need to allow for flexibility for mobile autonomous agents see '968 (col. 1, lines 58 et seq.) "It is desirable to provide a computer security and management system that enables a distributed framework for command, control and communication that enables systems, devices and operational personnel to interact with a network as a unified entity. It is further desirable to provide this command, control and communication by using a core communication architecture that allows local and remote execution of mobile program code, and static execution of program code. Such a system should enable flexible communication formats, self-healing network techniques, and expansion by adding new program modules, software handlers, and mobile autonomous agents".

As to dependent claim 12, "further comprising: promoting a second agent in each of the cooperative agent cells to a type 1 super peer agent; authenticating new agents with the type 1 super peer agent; and communicating between the cooperative agent cells and a command and control console via the cell delegate to protect the network from malicious activity" however '968 teaches that the architecture of the system is designed to allow modularity. This modularity allows for the roles to be reversed. In col. 4, lines 44-67.

As to dependent claim 13, "the agents and cooperative agent cells being configured for independent and collaborative investigation of the electronic network, isolation of compromised components of the electronic network, and defense of the electronic network" however '968 teaches that the architecture of the system is designed to allow modularity. This modularity allows for the roles to be reversed. In col. 4, lines 44-67.

10. **Claim 14,** is rejected under 35 U.S.C. 103(a) as being unpatentable over Norris et al. U.S. Patent No. 7,028,338 (hereinafter '338) in view of Munson U.S. Patent No. 7,096,499 (hereinafter '499) in further view of Moran U.S. Patent No. 7,085,936 (hereinafter '936).

As to independent claim 14, "A system for protecting an electronic network, comprising: a plurality of agents with the electronic network, the agents being grouped into at least one cooperative agent cell having one cell delegate" is taught in '338 col. 1, lines 54-67;

"a communications protocol within each cooperative agent cell, for (a) communicating between agents of the cooperative agent cell, and (b) communicating with cell delegates external to the cooperative agent cell" is taught in '338 col. 4, lines 41-55;

"means for detecting malicious activity" is shown in '338 col. 3, line 63 through col. 4, line 10;

"means for counter-intelligence to reveal the origin of the malicious activity" is disclosed in '338 col. 4, lines 45-51;

the following is not explicitly taught in '338: **"means for determining normal activity levels of the electronic network"** however '499 teaches that nominal profiles data are initially

established by a calibration process that is implemented by running the program in a calibration mode in col. 5, lines 5-15.

It would have been obvious to one of ordinary skill in the art at the time of the invention of a method or system of a cooperative response to threat to domain security taught in '338 to include a mechanism to perform an initial assessment. One of ordinary skill in the art would have been motivated to perform such a modification because it would be desirable to provide a real time intrusion detection program see '499 (col. 1, lines 53 et seq.) "One known system for detecting an intrusion is the EMERALD™ program. EMERALD defines the architecture of independent monitors that are distributed about a network to detect intrusions. Each monitor performs a signature or profile analysis of a "target event stream" to detect intrusions and communicates such detection to other monitors on the system. The analysis is performed on event logs, but the structure of the logs is not prescribed and the timeliness of the analysis and detection of an intrusion depends on the analyzed system and how it chooses to provide such log data. By monitoring these logs, EMERALD can thus determine that at some point in the event stream recorded in the log, an intrusion occurred. However, the detection is generally not implemented in real time, but instead occurs at some interval of time after the intrusion. Also, this system does not allow monitoring of all types of software activity, since it is limited to operating system kernel events. It would be desirable to provide a real time intrusion detection paradigm that is applicable to monitoring almost any type of program."
the following is not explicitly taught in the combination of '338 and '499:

"means for isolating compromised components of the electronic network" however '936 teaches that the system includes a trap system create a virtual cage in col. 7, lines 42-51;

"means for repairing damage caused by the malicious activity; means for determining vulnerabilities in the current protection provided by the plurality of agents; and means for improving protection to resist future attack on the electronic network" however '936 teaches "The inventive system focuses on discovering and presenting information about an attack, and presents configuration problems that are likely related to the attack, while suppressing those that aren't. Additionally, the presentation may show where relevant configuration problems fit within the factors that made the attack possible. This facilitates recovering from the attack, because the system administrator may be able to block future attacks of the same type by fixing only a subset of factors involved rather than having to fix every possible factor. It is also extremely useful in situations where one of the configuration problems cannot be changed due to its providing crucial functionality for the enterprise. For example, the restore command should normally not be set to allow execution by normal users with SetUID to root because it can be used to allow a normal user to install his own SetUID program on the computer that gives him a root shell. However, the dump-restore command pair have features that make them preferable in various circumstances to the other commonly available archiving and file copying utilities, and thus a system administrator may decide that having this capability available is worth the security risk" in col. 12, lines 9-29.

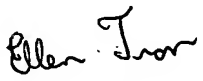
It would have been obvious to one of ordinary skill in the art at the time of the invention of a method or system of a cooperative response to threat to domain security taught in '338 and '499 to include a mechanism to quarantine attacked systems. One of ordinary skill in the art would have been motivated to perform such a modification because of the need to improve existing intrusion detection systems see '936 (col. 3, lines 3 et seq.) "The third dimension is real-

time or after-the-fact. All conventional IDSes fall into the real-time category: their intention is to alert the operator to an attack so that he can respond in time to avert damage. However, the speed with which attacks are currently executed rarely allow time for any meaningful response from these systems. The after-the-fact category is dominated by forensic tools: utilities designed to help a computer security expert analyze what happened on a compromised host by extracting data that has been established as relevant to known attacks. The exception to this is the DERBI project (Diagnosis, Explanation and Recovery from Break-Ins), which experimented with the feasibility of after-the-fact detection of intrusions on hosts with no special data collection enabled. The DERBI project developed a loosely coupled system that processed data for a single known simulated host in an experimental testbed. The existing systems, however, have many limitations: they fail to utilize many useful sources of data, they produce large amounts of information that are difficult for a human to analyze in a timely fashion, they are complex and difficult to use, and they are often designed for system administration rather than attack diagnosis".

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen C Tran whose telephone number is (571) 272-3842. The examiner can normally be reached from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ellen Tran
Patent Examiner
Technology Center 2134
2 January 2008